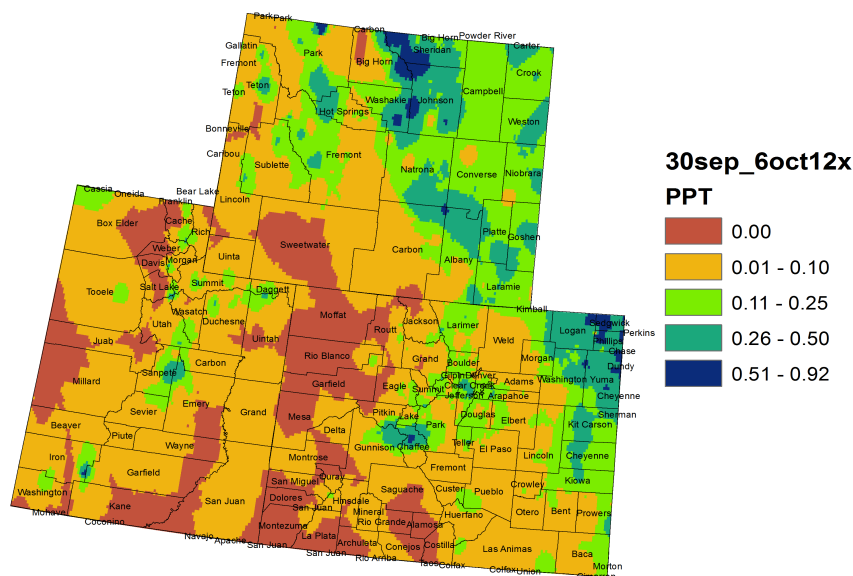


NIDIS Weekly Climate, Water and Drought Assessment Summary

Upper Colorado River Basin

October 9, 2012

Colorado, Utah and Wyoming 7 Day Precipitation (in)
(30 September - 6 October 2012)



Colorado, Utah and Wyoming Water Year 2012
Precipitation as Percentage of Normal (Oct 2011 - Sept 2012)

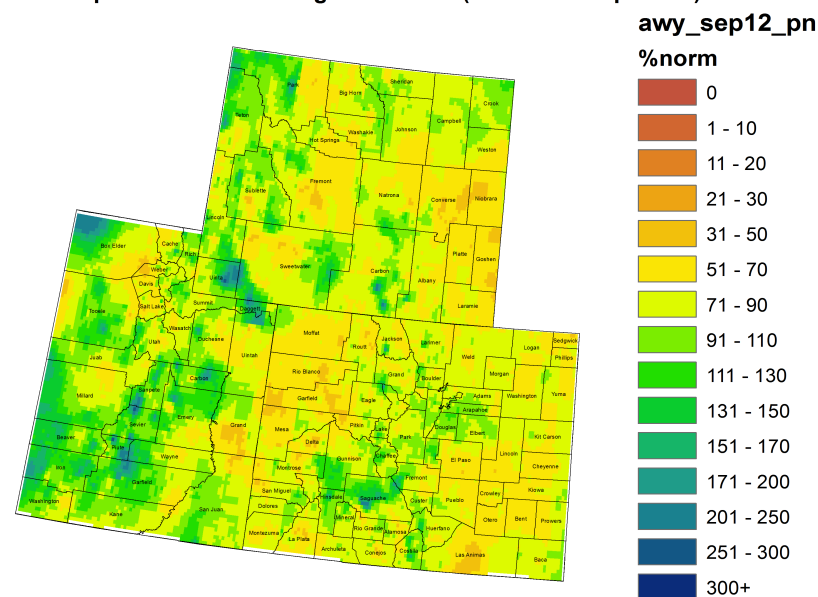


Fig. 1: September 30 – October 6 precipitation in inches.

Fig. 2: Water Year 2012 precipitation as a percent of average.

Precipitation

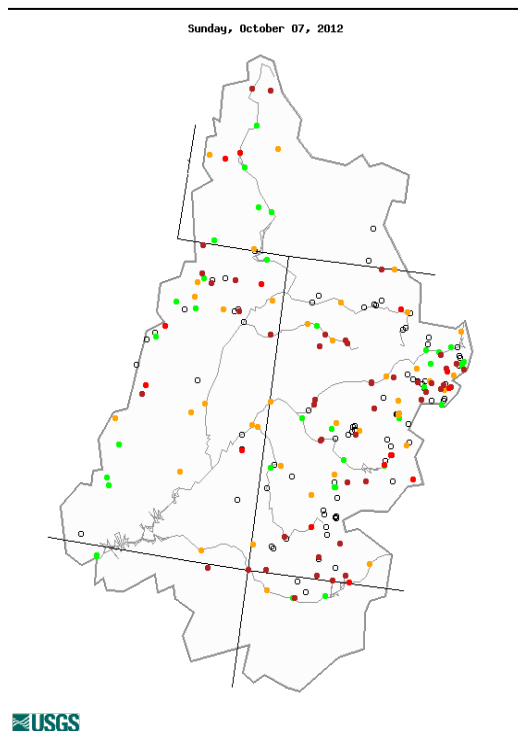
Last week, very little precipitation fell in the Upper Colorado River Basin (UCRB), with most areas receiving less than .10 inches (Fig. 1). Parts of the western slope of Colorado and the Colorado River valley in Utah received no precipitation. A couple spotty areas in central UT received between .10 and .50 inches of precipitation for the week. East of the basin, eastern CO received beneficial moisture, with the far northeast corner receiving over half an inch last week. The mountains near the Arkansas headwaters also fared well, receiving over .25 inches.

For Water Year 2012 most of the UCRB was drier than average (Fig. 2). Some parts in central Utah and southwest Wyoming saw above average precipitation for the water year. The San Juan mountains in CO received near average precipitation. Northwest CO was the driest part of the basin, with most areas receiving between 30% and 70% of average water year precipitation. East of the basin, most of eastern CO saw between 70% and 90% of average water year precipitation, with parts of the Front Range, Saguache County, and the Sangre de Cristos receiving near average precipitation for the water year.

Streamflow

As of October 7th, about 26% of the USGS streamgages in the UCRB recorded normal (25th – 75th percentile) 7-day average streamflows (Fig. 3). About 46% percent of the gages in the basin are recording much below normal or low (i.e. lowest on record) streamflows (an increase from 35% one week ago), and none of the gages are recording above normal flows. As flows return to a normal baseflow, the rivers are expected to run lower, and small changes could mean larger changes in percentiles rankings. Accumulated volumes for this time of year is a better indicator of how runoff has been affected by dry conditions.

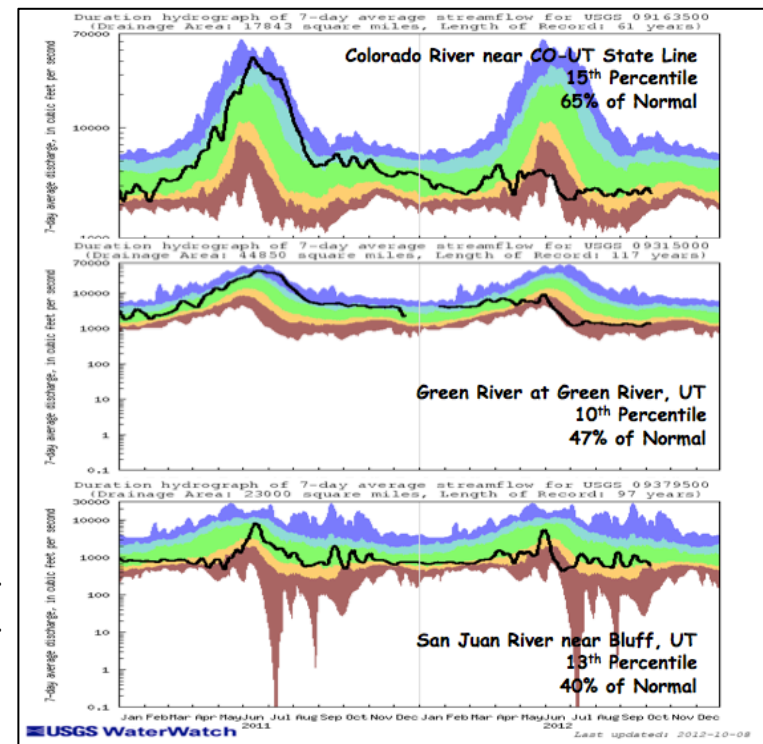
Flows on all three key gages across the basin decreased slightly from last week (Fig. 4). The Colorado River near the CO-UT state line and the Green River at Green River, UT are both recording flows in the below normal range, at the 15th and 10th percentiles, respectively. Flows on the San Juan River near Bluff, UT dropped from the near normal range last week to the below normal range this week and is now at the 13th percentile.



Explanation - Percentile classes							
●	●	●	●	●	●	●	○
Low	<10 Much below normal	10-24 Below normal	25-75 Normal	76-90 Above normal	>90 Much above normal	High	Not-ranked

Fig. 3: 7-day average discharge compared to historical discharge for October 7th.

Fig. 4: USGS 7-day average discharge over time at the CO-UT stateline (top), Green River, UT (middle) and Bluff, UT (bottom).



Water Supply and Demand

The southern part of the UCRB saw warmer than average temperatures last week while the northern part saw cooler than average temperatures. East of the basin, the rest of CO experienced temperatures 4 to 8 degrees cooler than average. Satellite vegetation conditions show very dry vegetation through much of the northern part of the UCRB and throughout eastern CO (Fig. 5). Improved vegetation conditions show up in the central and southern mountains of CO and also in southern UT. For the growing season, reference evapotranspiration (ET) rates were higher than average across the western slope, and stations in southeast and northeast CO reported near record or record high reference ET accumulations for the growing season.

For the month of September, all the major reservoirs in the UCRB saw a volume decrease, which is normal during this time of year. Navajo and Granby reservoirs decreased more than what is normal for this time of year, while Green Mountain decreased less than average. Most of the reservoirs are around 75% of their average October volumes, with Green Mountain and Blue Mesa below 70% of average and Flaming Gorge near average.

Precipitation Forecast

The UCRB will remain under a weakening ridge of high pressure through the middle of the week with dry and seasonable conditions. On Thursday, the upper level low pressure system currently lurking off the coast of California finally begins to move eastward. Moisture streaming northward ahead of this system will begin to spread widely scattered showers over southwestern portions of the basin as early as Thursday. By Friday the storm will rapidly accelerate northeastward across the UCRB and bring a chance of accumulating precipitation to the entire region (Fig. 6). Precipitation amounts associated with this feature will be moderated by its quick movement, but should still result in a band of 0.50 to 1.00 inch liquid accumulations across most of western CO through Saturday. South facing slopes of the San Juans as well as the northern CO mountains will likely see isolated amounts exceeding 1 inch while the lower elevations and western sections of the basin pick up 0.25 to 0.50 inches by the time the storm exits late Saturday. Snow will remain in the higher elevations, gradually lowering to around 8000 - 9000 ft. through Saturday. Calmer conditions are expected following this storm, with only a few weak disturbances moving through the area early next week.

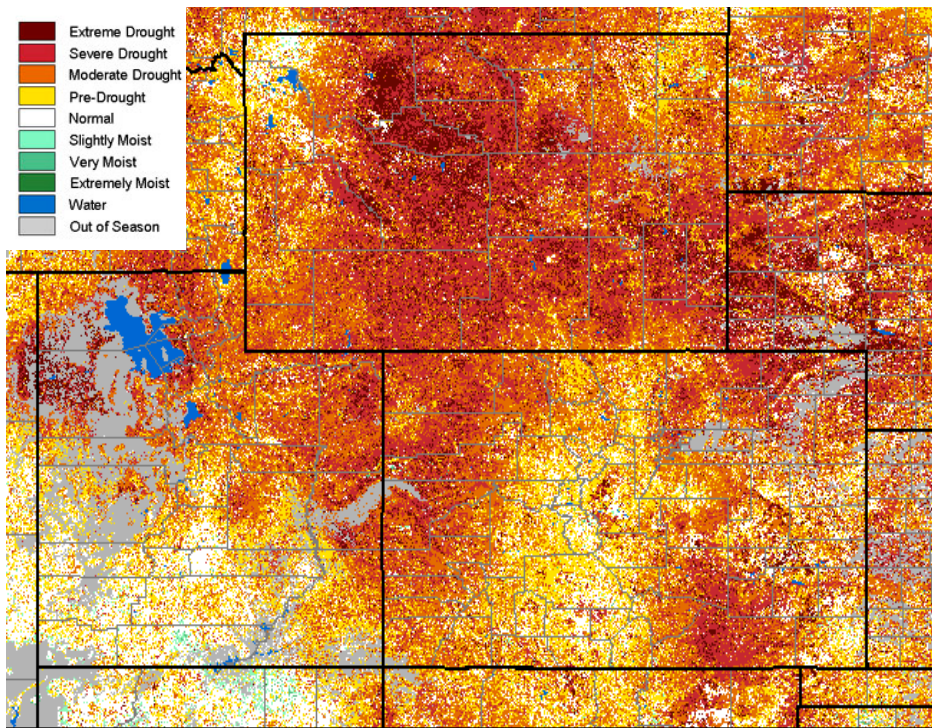


Fig. 5: eMODIS VegDRI showing satellite vegetation conditions as of October 7th.

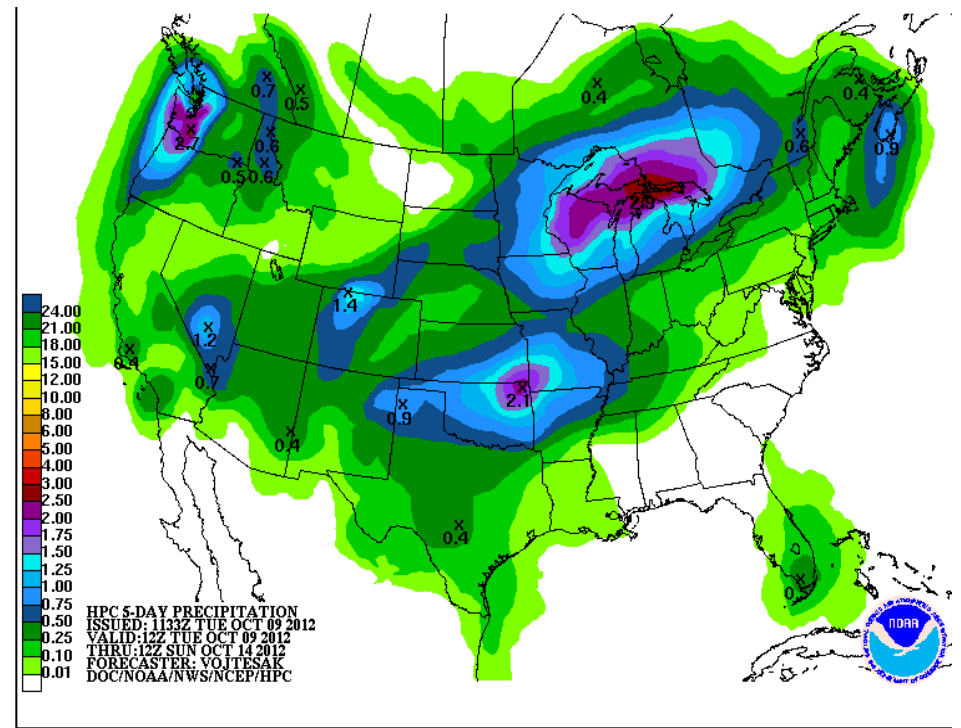


Fig. 6: Quantitative precipitation forecast (QPF) by the Hydrologic Prediction Center out to 12UTC Sunday.

Drought and Water Discussion

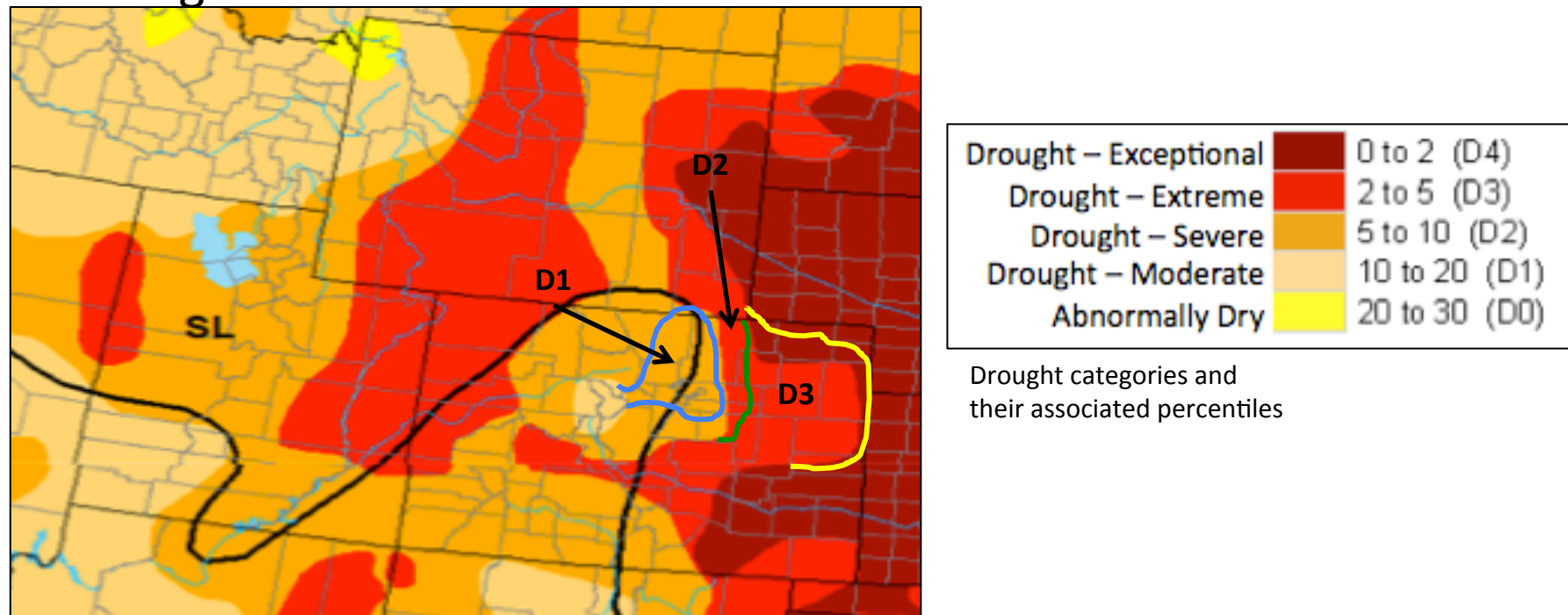


Fig. 7: October 2nd release of U.S. Drought Monitor for the UCRB.

UCRB: Status quo is recommended for the basin in the current depiction of the U.S. Drought Monitor (USDM) map (Fig. 7). With beneficial rains forecasted for the next week, further improvements could possibly be considered in the near future.

Eastern CO: Several improvements are recommended for northeast CO, where beneficial moisture has continued to accumulate and impacts in drought-stricken areas have lessened. With positive standardized precipitation indices (SPIs) out through 90 days along the Front Range, a reduction to D1 is recommended (Fig. 7, blue line). The D3 should be trimmed to accommodate (Fig. 7, green line), and the D4 should be reduced and limited mostly to the far northeast corner of CO where long-term SPIs are still below -2 (Fig. 7, yellow line). Conditions still appear to be more dry (and with fewer benefits from recent storms) in the Arkansas River valley, so status quo is recommended for southeast CO.